# ***Gesture Lock***

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1. **Hardware Design**
   1. **Hardware Selection**

* SAM D21 Xplained Pro evaluation: SAMD21J18A
* Accelerometer: MPU6050
  1. **Pin Connection**

**A circuit board

Description automatically generated**

* I2C: PB09 🡨🡪SCL, PB08 🡨🡪SDA
* VCC and GND

1. **Development Environment**

I use Arduino 1.8.13 for IDE.

1. **Software Design**
   1. **Overview**

Main logic shown below:

A close up of a map

Description automatically generated

### **Gesture Alphabet**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | left(x) | right(x) | forward(y) | backward(y) |
| Mode number | 1 | 2 | 3 | 4 |
| Range (in, out) | -90 <x< -70 | 70 <x< 90 | 70 <x< 90 | -90 <x< -70 |